SCHC over LoRaWAN draft 02

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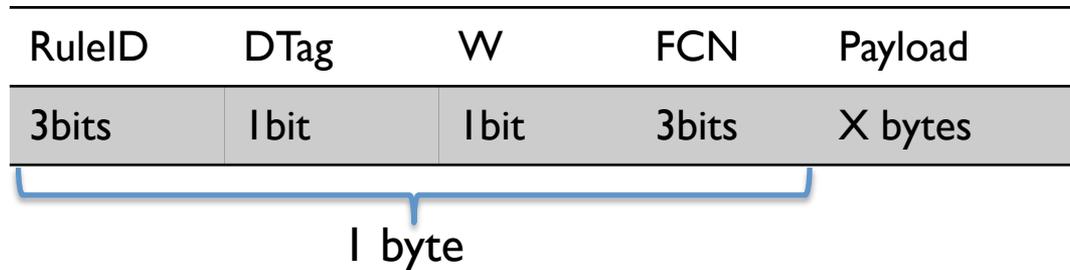Ivaylo Petrov <ivaylo@ackl.io>

LPWAN

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LoRaWAN 3 device classes

Class A — TX *uplink* — RX1 RX2 — *Downlink opportunities*

Class B — RXB TX *uplink* — RXB RX1 RX2 RXB — *Class A Downlink opportunities* — RXB *periodic classB RX slots*

Class C — RXC TX *uplink* RXC RX1 RXC RX2 RXC — *Class A Downlink opportunities* — *continuous classC RX slot*
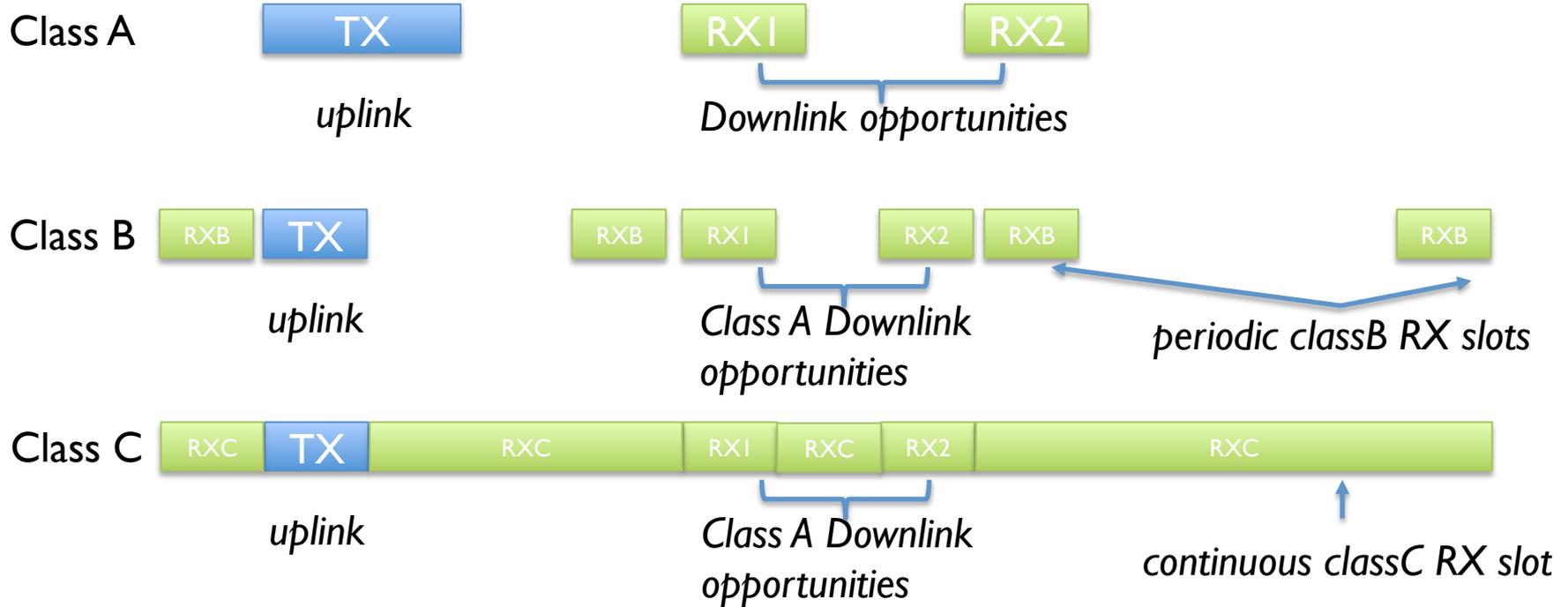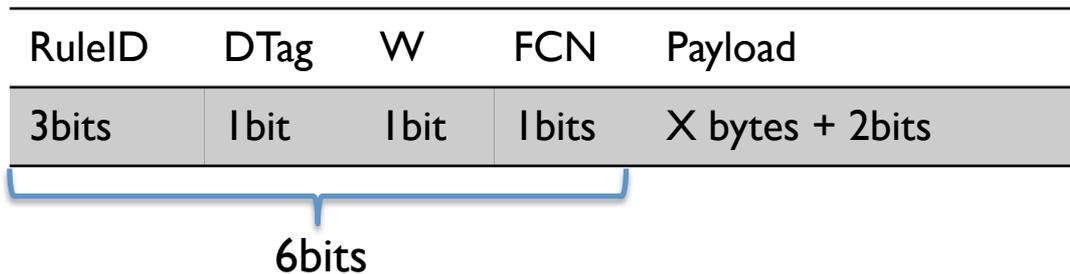
Document status

- LoRaWAN architecture & mapping to SCHC ☑
  components

- Uplink & downlink Fragmentation ☑
  With Different parameters for class A/B/C

Uplink frag

RuleID	DTag	W	FCN	Payload
3bits	1bit	1bit	3bits	X bytes

1 byte

Downlink frag

RuleID	DTag	W	FCN	Payload
3bits	1bit	1bit	1bits	X bytes + 2bits

6bits

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Seeking feedback ?

- Current draft encodes RuleID on 3 bits
  - This leaves 7 RuleIDs for header compression

  Is that enough ?
  - Typical COAP requests works with 3 rules
    - Unconfirmed POST, conf POST, conf GET
  - We need to learn more about real use-cases

To be done

- Security model

- Describe specificities of 3 device classes classA, B & C regarding IPV6 applications

- Provide detailed frame exchange examples

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our feedback on SCHC

Like:

- the overall simplicity

- the fragmentation scheme

Desired addition:

- Implicit introduction & conclusion rule : *would allow using SCHC even for non-SCHC simple legacy devices*

- A way for device to send rule(s) to SCHC gateway : *out-of-band gateway rule provisioning is going to be complicated*

Draft adoption

We are asking the workgroup to adopt the draft

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